

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A system for monitoring performance of a position determination of a mobile communication terminal by using a wireless network and an A(Assisted)-GPS (Global Positioning System), the system comprising:

~~the mobile~~ a mobile communication terminal equipped with a GPS module for picking up receiving a GPS radio wave containing a navigation data from at least one GPS satellite and satellite, the mobile communications terminal configured to transmit transmitting the navigation data to a position determining server on the wireless network, and receive GPS satellite longitude and latitude coordinate values from the position determining server;

a test device, connected to in electrical communication with the mobile communication terminal through wired/radio link, for being loaded with and running the test device configured to receive and execute a LBS (Location Based Service) wireless network analysis program, wherein the LBS (Location Based Service) wireless network analysis program is configured to:

receive from the mobile communications terminal the navigation data transmitted by the mobile communications terminal to the position determining server;

receive from the mobile communications terminal the GPS satellite longitude and latitude coordinate values received from the position determining server;

analyze and process the information received from the mobile communications terminal gathers, analyzes and processes data pertinent to the position determination;

classify the and classifies processed data by at least one classification reference; and displays

display classified data in the format of text or graph; and;

wherein the position determination server is configured to receive a position determination server for receiving the navigation data from the wireless network, converting

convert the navigation data into longitude and latitude coordinate values, transmitting transmit the longitude and latitude coordinate values to the mobile communication terminal and performs perform transmission and reception of the data pertinent to the position determination, and

wherein ~~the LBS~~ the LBS wireless network analysis program analyzes and displays GPS satellite information ~~on the GPS satellite~~, each of the GPS satellite information ~~on GPS satellite~~ is distinctively indicated with different color, text or pattern on a screen displaying more than one concentric circles and 4 directional intersections, the concentric circles consecutively indicating angles ranging from 0 degrees to 90 degrees;

~~wherein the LBS wireless network analysis program indicates with a first color the information of the GPS satellite which the position determination server provides for the mobile communication terminal and with a second color different from the first color the information of the GPS satellite which the mobile communication terminal actually acquires.~~

2. **(Currently Amended)** The system of claim 1, wherein the data pertinent to the position determination received by the test device from the mobile communications terminal is a LBS message that the mobile communication terminal acquires from the position determination server, the LBS message being defined in the 1S-801-1 standard.

3. (Original) The system of claim 2, wherein the LBS wireless network communication network analyzes the LBS message and consequently indicates the time information of transmission or reception of the LBS message, the name of the LBS message, and a type of message, wherein the type of message is whether the LBS message is a forward channel message, a reverse channel message, a request message or a response message.

4. (Original) The system of claim 3, wherein the name of the LBS message is one of "Request MS Information", "Request Pilot Phase Measurement", "Provide MS Information", "Provide Pilot Phase Measurement", "Request Pseudorange Measurement", "Provide Pseudorange Measurement", "Provide GPS Acquisition Assistance", "Provide GPS Sensitivity Assistance", "Request Location response".

5. (Previously Presented) The system of claim 1, wherein the information on the GPS satellites is more than one out of an azimuth angle, an elevation angle, a total number of the GPS satellites and an identification number of each satellite included in a "Provide GPS Acquisition" message.
6. (Previously Presented) The system of claim 1, wherein the LBS wireless communication analysis program analyzes and displays information on the GPS satellite, wherein the information on the GPS satellite is more than one out of a total number of the GPS satellites and an identification number of each satellite included in a "Provide Pseudorange Measurement" message.
7. (Original) The system of claim 2, wherein the LBS wireless communication analysis program extracts and displays information on the wireless network, a pseudo random noise code of a radio base station which transmits the LBS message and strength of the pseudo random noise code, from the LBS message.
8. (Original) The system of claim 7, wherein the wireless network is one out of a CDMA(Code Division multiple Access), GSM(Global system for Mobile communication), CDMA2000 1X, 3X, EV-DO, EV-DV, WCDMA(Wideband CDMA) and PI(Portable Internet).
9. (Original) The system of claim 1, wherein the mobile communication terminal communicates with the test device through an infra-red communication link, Bluetooth communication link or a radio frequency link.
10. (Original) The system of claim 1, wherein the mobile communication terminal exchanges the data pertinent to the position determination with the position determination server through a TCP/IP(Transmission Control Protocol/Internet Protocol) link.
11. (Original) The system of claim 1, wherein the mobile communication terminal is one out of a PDA, a cellular phone, a PCS(Personal Communication Service) phone, a hand-held PC, a GSM(Global System for Mobile) phone, a W-CDMA phone, an EV-DO phone and a

MBS(Mobile Broadband System) phone.

12. **(Currently Amended)** A method for monitoring performance of position determination of a mobile communication terminal in a communication system including a mobile communication terminal picking up GPS (Global Positioning System) radio wave and receiving LBS (Location Based Service) messages, a test device communicating with the mobile communication terminal and a position determination server performs transmission and reception of the LBS messages, wherein the test device performs the method comprising the steps of:

- (a) receiving, on a real time basis, LBS messages from the mobile communications terminal that the mobile communication terminal transmits and receives from the position determination server the LBS messages on a real time basis from the mobile communication terminal;
- (b) analyzing received LBS messages on a real time basis; and
- (c) processing analyzed LBS messages into a requested format and displaying converted LBS messages in the format of text or graph,

wherein the LBS message includes information on the GPS satellite, each of the information on GPS satellite is satellite being distinctively indicated on the test device with a different color, text or pattern on a screen displaying more than one concentric circles and 4 directional intersections, the concentric circles consecutively indicating angles ranging from 0 degree to 90 degrees;

— wherein the information of the GPS satellite which the position determination server provides for the mobile communication terminal is indicated with a first color and the information of the GPS satellite which the mobile communication terminal actually acquires is indicated with a second color different from the first color.

13 (Original) The method of claim 12, wherein the LBS messages are messages defined in IS-801-1 standard.

14. (Original) The method of claim 12, wherein at step (a), the test device acquires the LBS messages from the mobile communication terminal through wired and/or radio link.

15. (Original) The method of claim 12, wherein the receiving, analyzing, processing and displaying are preformed by a LBS wireless network analysis program loaded in the test device.

16. (**Currently Amended**) A computer readable storage medium storing a LBS (Location Based Service) wireless network analysis program receiving, analyzing, processing and displaying LBS messages received and transmitted by a mobile communications terminal to and from a network connected position determination server defined in IS-801-1 standard by using a wireless network and an A(Assisted)-GPS (Global Positioning System), wherein the LBS wireless network analysis program, in communication with the mobile communications terminal, is coded in a computer language, performs analyzing and is configured to analyze the LBS messages, displays display analyzed LBS messages, and processes and displays process and display information on the wireless network, GPS satellite information ~~on GPS satellite~~ and measured coordinate values included in the LBS messages in text and/or image format,

wherein each of the GPS satellite information ~~on GPS satellite~~ is distinctively indicated with different color, text or pattern on a screen displaying more than one concentric circles and 4 directional intersections, the concentric circles consecutively indicating angles ranging from 0 degree to 90 degrees;

~~wherein the LBS wireless network analysis program indicates with a first color the information of the GPS satellite which a position determination server provides for a mobile communication terminal and with a second color different from the first color the information of the GPS satellite which the mobile communication terminal actually acquires.~~

17. (Original) The computer readable storage medium of claim 16, wherein the LBS wireless network analysis program displays the time information of transmission or reception of the LBS message, the name of the LBS message, and a type of message, wherein the type of message is

whether the LBS message is a forward channel message, a reverse channel message, a request message or a response message.

18. (Original) The storage medium of claim 17, wherein the name of the LBS message is one of "Request MS Information", "Request Pilot Phase Measurement", "Provide MS Information", "Provide Pilot Phase Measurement", "Request Pseudorange Measurement", "Provide Pseudorange Measurement", "Provide GPS Acquisition Assistance", "Provide GPS Sensitivity Assistance", "Request Location response".

19. (Original) The storage medium of claim 17, the information on the wireless network is at least one out of a kind of the wireless network processing the LBS messages, a pseudo random noise code of a radio base station and strength of the pseudo random noise code.

20. (Original) The storage medium of claim 19, wherein the wireless network is at least one out of a CDMA(Code Division multiple Access), GSM(Global system for Mobile communication), CDMA2000 1X, 3X, EV-DO, EV-DV, WCDMA(Wideband CDMA) and PI(Portable Internet).

21. (Original) The storage medium of claim 19, wherein the information on the GPS satellite is more than one out of an azimuth angle, an elevation angle, a total number of the GPS satellites and an identification number of each satellite, included in a "Provide GPS Acquisition Assistance" message.

22. (Original) The storage medium of claim 16, wherein the information on GPS satellite is at least one out of a total number of the GPS satellites and an identification number of each satellite.

23. (Canceled).

24. (Original) The storage medium of claim 18, wherein the LBS wireless network analysis program displays the identification number of each satellite and C/No(Carrier to Noise) on a planar coordinates, both being included in the "Provide Pseudorange Measurement" message, wherein the C/No represents a reception sensitivity of the GPS radio wave.

25. (Original) The storage medium of claim 16, wherein the LBS wireless network analysis program stores therein a map data and displays the measured coordinate values as a point as well as a map around the point.

26. (Original) The storage medium of claim 25, wherein the map data is made in the format of WGS(World Geodetic System)-84.

27. (Original) The storage medium of claim 25, wherein the LBS wireless network analysis program is capable of zooming in or zooming out the map with the reference of the concentric circles or the 4 directional intersections and displaying the map zoomed in or zoomed out.

28. (Original) The storage medium of claim 25, wherein the LBS wireless network analysis program supports both a fixed reference mode and a moving reference mode, wherein the fixed reference mode refers to a map display method that the measured position is indicated while the position of a mobile communication terminal is fixed at a certain point, while the moving reference mode refers to another map display method that the measured position is indicated while the position of the mobile communication terminal is moving about on the map.

29. (Original) The storage medium of claim 16, wherein the LBS wireless network analysis program displays a position error sequentially on a real time basis, the position error representing a difference between the measured coordinate values and a true position.

30. (Original) The storage medium of claim 29, wherein a scale of the position error is adjustable.

31. (Original) The storage medium of claim 29, wherein the LBS wireless network analysis program assesses and displays the number of total measurements; the number of measurements having position error within a prescribed range of radius when counting from the least position error among the total measured points.

32. (Original) The storage medium of claim 31, wherein the LBS wireless network analysis program is capable of calculating and displaying a "bias east" or "bias north", wherein the bias east can be an average horizontal component of the position errors and the bias north may be an average vertical component of the position errors.

33. (Original) The storage medium of claim 16, wherein the storage medium is one out of a floppy disc, a hard disc, a ZIP disc, a JAZ disc, a compact disc and a DVD(Digital Versatile Disc).

34. (Previously Presented) The system of claim 2, wherein the LBS wireless network analysis program analyzes and displays information on the GPS satellite, wherein the information on the GPS satellites is more than one out of an azimuth angle, an elevation angle, a total number of the GPS satellites and an identification number of each satellite included in a "Provide GPS Acquisition" message.

35. (Previously Presented) The system of claim 2, wherein the LBS wireless communication analysis program analyzes and displays information on the GPS satellite, wherein the information on the GPS satellite is more than one out of a total number of the GPS satellites and an identification number of each satellite included in a "Provide Pseudorange Measurement" message.

36. (Previously Presented) The storage medium of claim 22, wherein each of the information on GPS satellite is distinctively indicated with different color, text or pattern on a screen displaying more than one concentric circles and 4 directional intersections, the concentric circles consecutively indicating angles ranging from 0 degree to 90 degrees.

37. (**New**) The system of claim 1, wherein the LBS wireless network analysis program indicates with a first color the information of the GPS satellite which the position determination server provides for the mobile communication terminal and with a second color different from the first color the information of the GPS satellite which the mobile communication terminal actually acquires.

38. (New) The method of claim 12, wherein the information of the GPS satellite which the position determination server provides for the mobile communication terminal is indicated with a first color and the information of the GPS satellite which the mobile communication terminal actually acquires is indicated with a second color different from the first color.